

Spreadsheet

Sensitivity		1	2	3	4
		SCPC w Eastern	IGCC w Eastern Base Case	SCPC w Western	IGCC w Western
Engineering Parameters					
	kW rating	600,000	600,000	600,000	600,000
	Hours per year	8760	8760	8760	8760
5, 6	Capacity Factor	85.0%	80.0%	85.0%	80.0%
	kWh each year	4,467,600,000	4,204,800,000	4,467,600,000	4,204,800,000
7, 8	Construction Cost (\$/kW)	\$1,415	\$1,628	\$1,391	\$1,599
Capital Costs					
	Project Cost	\$849,292,683	\$976,686,585	\$834,370,631	\$959,526,225
9	Additional Time for Construction				
	Economic Cost of Capital	12.90%	12.90%	12.90%	12.90%
10	-Operating Life (Years)	30	30	30	30
	Annual Capital Cost	\$112,512,568	\$129,389,453	\$110,535,724	\$127,116,083
	\$/kW each year	\$187.52	\$215.65	\$184.23	\$211.86
	Total Capital Costs (\$/MWH)	\$25.18	\$30.77	\$24.74	\$30.23
Fuel Costs					
	Estimated efficiency	38.6%	39.2%	37.3%	36.7%
12, 13	Heat Rate (BTU/kWh)	8,850	8,700	9,150	9,300
	Fuel heating value (BTU/lb)	10,200	10,200	8,700	8,700
14, 15	Average Price(\$/MMBTU)	\$1.75	\$1.75	\$1.50	\$1.50
	Total Fuel Costs (\$/MWH)	\$ 15.49	\$ 15.23	\$ 13.73	\$ 13.95
O&M Costs					
16, 17	Fixed Operating costs (\$/kW/year)	\$24.00	\$34.21	\$24.00	\$34.21
18, 19	Variable O&M costs (\$/MWH)	\$3.00	\$2.58	\$3.00	\$2.58
	Production sulfuric acid (tons/yr)	0	109,200	0	36,036
20, 21	sulfuric acid (\$/ton)	0	\$40.00	0	\$40.00
	Sulfuric acid value	0	\$4,368,000	0	\$1,441,440
	Annualized variable costs	\$13,402,800	\$6,480,384	\$13,402,800	\$9,406,944
	Annualized fixed costs	\$14,400,000	\$20,526,000	\$14,400,000	\$20,526,000
	Total Fixed and Variable	\$27,802,800	\$27,006,384	\$27,802,800	\$29,932,944
	Total O&M costs (\$/MWH)	\$6.22	\$6.42	\$6.22	\$7.12
Emissions					
	Rate (#/MWH)				
	NOx	0.62	0.51	0.55	0.55
	SOx	1.33	0.29	0.82	0.31
	Hg	0.00000991	0.00000974	0.00001556	0.00001318
24	CO2	1,831	1,800	1,960	1,992
	Estimated Tons per Year				
	NOx	1,384,956	1,072,224	1,474,308	1,156,320
	SOx	2,965,370	603,599	2,207,441	645,227
	Hg	22	20	42	28
	CO2	4,090,430,688	3,784,565,981	5,252,974,147	4,187,520,374
22, 23	Cost/Ton				
	NOx	\$2,000	\$2,000	\$2,000	\$2,000
	SOx	\$800	\$800	\$800	\$800
	Hg	\$20,000,000	\$20,000,000	\$20,000,000	\$20,000,000
	CO2				
	Annual Cost				
	NOx Monetized	\$2,769,912	\$2,144,448	\$2,948,616	\$2,312,640
	SOx Monetized	\$2,372,296	\$482,879	\$1,765,953	\$516,181
	Hg Monetized	\$442,829	\$409,716	\$833,922	\$553,982
25, 26, 27, 28	CO2 monetized				
	TOTAL Monetized	\$5,585,036	\$3,037,043	\$5,548,491	\$3,382,804
	Total Emissions monetized (\$/MWH)	\$1.25	\$0.72	\$1.24	\$0.80
Production Cost Totals (from above)					
	Capital	\$25.18	\$30.77	\$24.74	\$30.23
	Fuel	\$15.49	\$15.23	\$13.73	\$13.95
	O&M	\$6.22	\$6.42	\$6.22	\$7.12
	Emissions	\$1.25	\$0.72	\$1.24	\$0.80
	Total w Emissions (\$/MWH)	\$48.14	\$53.14	\$45.93	\$52.10